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Gmail

Ex. 6 Personal Privacy (PP)

Information on your article

Ex. 6 Personal Privacy (PP) Tue, May 9, 2017 at 9:38 AM

Draft To: "journal.com" <seth.tupper@rapidcity>

Hi Seth, I spoke with you briefly before the hearing started yesterday.
Your line is today's report is not necessarily true "The uranium would be sold, processed and used elsewhere to produce nuclear energy." Once the uranium leaves the US border, there is no control over what, where, to whom it goes.
Azarga is a huge international company who's purpose is to sell uranium to the highest bidder. Some country may buy it for a nuclear power plant; some group may buy it for bombs and even Azarga may not know; it just is a money transaction.

I also have concerns about the process part too. As the yellow cake is obtained, processed and stored...and then eventually shipped to the border, what security is there that some whacko doesn't blow it up. It would be devastating.

In addition, as trucks come in the dark of night and dump toxic waste into the deep holes, who oversees what is being dumped and where did it come from? Is there going to be a 24 hour security guard (in peprituity sp?) and how would he be even able to know what awful stuff is in those containers?

As one lady said yesterday, if something bad happens at that site, it could take several hours for law enforcement to get out there.

Thanks Ex. 6 Personal Privacy (PP)

Ex. 6 Personal Privacy (PP)

More important Information!

1. That the Minnelusa aquifer has over 125 holes that have Minnelusa wells in the souther hills that would be impacted by haz waste contaminated water
2. that ll the water in the Minnelusa flows east and south, contaminating those households and farms above and ultimately ends up in the great Oglala aquifer that services the entire central US
3. That Dewey Burdock has two geologic anomalies that preclude use as an ISL mining site...the proximity of Igloo, with 367,000 tons of various nerve gasses stored in known unstable containers in over 200 miles of tunnels. And the 7650 open old bore holes that other sites do not have, that mix the waters of the aquifers already, making containment impossible, for mining or deposition of toxic wastes.

specifically address the subject of the class 3 mining injection wells and the class 5 haz waste deep injection wells. You really need to be specific here...and those old boreholes were never closed, or if so, closed improperly by TVA...7650 of them are still open and some have fenceposts in them, which the rotting wood further contaminates the aquifers it touches, inoculating them with fungi and bacteria that organify the metals, making them unavailable chemically from being extracted by the ion exchange method, including uranium, which will continue to increase in the wastewater.

We are protesting the use of the minnelusa aquifer for dumping of haz waste...and we are questioning the ability of Powertech/azarga to be able to detoxify the radioactive metals of vanadium, thorium, strontium, uranium, thallium and lead (which has radioactive forms) down to the levels of purity of stormwater that is required to be injected into a class 5 well that sits between and in two drinking water aquifers. (the Minnelusa is used for good quality drinking water in the area and the Madison). No such plan has been demonstrated by Powertecch/Azarga. And if such was even possible, that water would be worth gold in a high dry area of the country, and used for irrigation of crops and farm animal use, and treated with conventional water softener and RO at the sink for household drinking water, as the minnelusa is now in that area for TDS. It is the radioactive metals that are of concern. If that water was going to be so pure, then it would not have to be disposed of in a deep injection well int h e first place. And those 7650 open boreholes, existing in an uplift area of numerous cracks, fissures, fractures, breccia pipes and sinkholes that exist there, that are already allowing for the mixing of aquifers, does not allow for the containment of anything you put down in the ground, no matter what level. This includes the class 3 mining wells.

Susan

Safeguards

Need more dialogu consultation with tribal nation

Or FBI
EPA funding
Troubled times.

delay

Declaration of the World Nuclear Victims Forum in Hiroshima
(Draft Elements of a Charter of World Nuclear Victims' Rights)

November 23, 2015

1. We, participants in the World Nuclear Victims Forum, gathered in Hiroshima from November 21 to 23 in 2015, 70 years after the atomic bombings by the US government.
2. We define the nuclear victims in the narrow sense of not distinguishing between victims of military and industrial nuclear use, including victims of the atomic bombings in Hiroshima and Nagasaki and of nuclear testing, as well as victims of exposure to radiation and radioactive contamination created by the entire process including uranium mining and milling, and nuclear development, use and waste. In the broad sense, we confirm that until we end the nuclear age, any person anywhere could at any time become a victim=a potential *Hibakusha*, and that nuclear weapons, nuclear power and humanity cannot coexist.
3. We recall that the radiation, heat and blast of the atomic bombings of Hiroshima and Nagasaki sacrificed not only Japanese but also Koreans, Chinese, Taiwanese and people from other countries there as a result of Japan's colonization and invasion, and Allied prisoners of war. Those who survived "tasted the tortures of hell." We pay tribute to the fact that the *Hibakusha* question the responsibility of the Japanese government which conducted a war of aggression; call for recognition of the right to health and a decent livelihood; have achieved some legal redress and continue to call for state redress to be clearly incorporated within the Atom Bomb Victims Relief Law; struggle to guarantee the rights of those who experienced the atomic bombings yet are not recognized as *Hibakusha*; and call not only for nuclear weapons abolition but also oppose nuclear power restarts and exports, and demand adequate assistance for nuclear power plant disaster victims.
4. We noted that through the international conferences on the humanitarian impact of nuclear weapons held in Oslo in 2013 and in Nayarit and Vienna in 2014, the understanding is widely shared internationally that the detonation of nuclear weapons would cause catastrophic harm to the environment, human health, welfare and society; would jeopardize the survival of the human family; and adequate response is impossible. We warmly welcome the Humanitarian Pledge endorsed by 121 states, pledging to fill the legal gap for the prohibition and elimination of nuclear weapons. We support the adoption in early November 2015 at the UN General Assembly First Committee, by an overwhelming majority of 135 in favor with only 12 opposed, of a resolution convening an open-ended working group "to substantively address concrete effective legal measures... and norms that will need to be concluded to attain and maintain a world without nuclear weapons."

5. We acknowledge that the mining and refining of uranium, nuclear testing, and the disposal of nuclear waste are being carried out based on ongoing colonization, discriminatory oppression, and infringement of indigenous peoples' rights, including their rights to relationships with their ancestral land. These activities impose involuntary exposure to radiation and contaminate the local environment. Thus, the local populations are continually and increasingly deprived of the basic necessities for human life with ever more of them becoming nuclear victims.

6. We also reconfirmed that every stage of the nuclear chain contaminates the environment and damages the ecosystem, causing a wide array of radiation-related disorders in people and other living beings. Through the experience of the nuclear disasters at Chernobyl and Fukushima, we see that nuclear accidents inevitably expose entire populations living near the power plants and the workers assigned to cope with the accident to harmful levels of radiation, and that adequate response to such a disaster is impossible. We further see that radioactive contamination is inevitably a global phenomenon. We know that "military" and "industrial" nuclear power are intimately connected within a unified nuclear industry, and that every stage of the nuclear chain, including the use of depleted uranium weapons, creates large numbers of new nuclear victims.

7. Complete prevention of nuclear chain related disasters is impossible. No safe method exists for disposing of ever-increasing volumes of nuclear waste. Nuclear contamination is forever, making it utterly impossible to return the environment to its original state. Thus, we stress that the human family must abandon its use of nuclear energy.

8. We acknowledge that the Atomic Bomb Trial against the State of Japan (the Shimoda Case; December 1963) found that the US military violated international law in dropping the atomic bombs, and that the advisory opinion issued by the International Court of Justice stated that "there exists an obligation to pursue in good faith and bring to a conclusion negotiations leading to nuclear disarmament in all its aspects under strict and effective international control" (July 1996). We support the Marshall Islands, whose people have suffered the effects of intensive nuclear testing, in bringing this issue back to the Court in April 2014 through filing cases against nine nuclear armed states.

   Furthermore, we recall the World Conference of Nuclear Victims which pursued criminal liability on the part of the nuclear weapon states and the nuclear industry (New York Resolution, 1987), and that the military industrial complex was found to have the responsibility of providing damages compensation (Berlin Resolution, 1992). In addition, we confirm that the International People's Tribunal on the Dropping of Atomic Bombs on Hiroshima and Nagasaki found all 15 defendants guilty, including President Truman (July 2007).

9. We emphasize that all states that promote nuclear energy, the operators that cause radioactive contamination, and the manufacturers of nuclear facilities including nuclear power plants must bear

liability for damages done, as do their shareholders and creditors. We are gravely concerned that the export of nuclear power plants is extremely likely to result in severe human rights abuses and environmental damage.

10. We accuse the International Atomic Energy Agency (IAEA) and the International Commission on Radiological Protection (ICRP) of underestimating the harm done by radiation exposure and hiding the true effects of nuclear power accidents. We demand the abolition of the IAEA's mandate to "promote the peaceful use of nuclear power".
11. We have identified that the military-industrial-government-academic complex and states that support it have, through the use of nuclear energy, degraded the foundations of human life, and violated the right to life of all living beings. We assert that the acts of members of this complex violate fundamental principles of international humanitarian, environmental and human rights law.
12. We condemn the Japanese government for failing to learn from the Fukushima disaster, without carrying out adequate investigations into the facts and impacts, hiding and trivializing the damage, and cutting off assistance to the victims, while investing in the restart and export of nuclear power plants. We oppose the building, operating or exporting of nuclear power plants or any industrial nuclear facility in Japan or any other country.
13. We call for the termination of uranium mining, milling, nuclear fuel production, nuclear power generation and reprocessing, and for the abolition of the entire nuclear chain.
14. We call for the urgent conclusion of a legally binding international instrument which prohibits and provides for the elimination of nuclear weapons.
15. We call for the prohibition of manufacture, possession and use of depleted uranium weapons.
16. With the momentum of this World Nuclear Victims Forum, we confirm our desire to continue to cooperate in solidarity and share information regarding nuclear victims, and disseminate our message through various methods including art and media.
17. Thus, as a result of this World Nuclear Victims Forum and in order to convey to the world the draft elements of a World Charter of the Rights of Nuclear Victims, we adopt this Hiroshima Declaration.

Draft Elements of a World Charter of the Rights of Nuclear Victims

[I] The Basis of Rights of Nuclear Victims

1. The natural world is the foundation of all life, and each human being is an integral member of the human family innately endowed with the right to partake in human civilization with equal rights to life, physical and emotional wellbeing, and a decent livelihood.
2. All peoples have the right to be free from fear and want, and to live in an environment of peace, health and security.
3. Each generation has the right to enjoy a sustainable society and the responsibility of effective stewardship for the benefit of the future generations of all living beings.
4. There exists the inherent dignity of the human person and the right of all peoples to self-determination as enshrined in the Charter of the United Nations, the rights to life, health and survival as stipulated in international positive law including the Universal Declaration of Human Rights, International Covenants on Human Rights, and the Declaration of the Rights of Indigenous Peoples, as well as exists the principle of international customary law which helps to shape the emerging "law of humanity".

[II] Rights

(1) To alleviate current and prevent future nuclear catastrophes, all persons living in the nuclear age have the right to demand the following:

1. Not to be exposed to ionizing radiation other than that which occurs in nature or is for medical purposes,
2. Prohibition of coerced labor involving potential exposure to ionizing radiation, and when labor involving such potential exposure cannot be avoided, for exposure to be minimized,
3. Minimization of medical exposure to ionizing radiation, and
4. Full, accurate information regarding the dangers of ionizing radiation exposure through school and community education; this information to include the facts that no level of radiation exposure is without risk and that children, women and girls are especially sensitive to radiation.

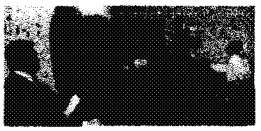
(2) Additionally, nuclear victims have the right to demand the following:

5. Nuclear victims have rights under domestic law derived from human rights and basic freedoms, including personal rights and the right to health.
6. To receive free of charge the best possible medical care and regular examinations for effects related to past, present and future exposure; this right to extend to the 2nd, 3rd and future generations.

7. An apology and compensation from the offending party for all damage to life, health, finance, suffering, and culture related to the use of nuclear energy.
8. The remediation of radiation contaminated land and domicile, and the renewal of community and local culture.
9. Thorough scientific investigation of the victim's exposure by competent scientists independent of the offending party, with all findings and information completely open to the public, and the victims themselves involved in the investigation and control of information.
10. To not be forced to return to radiation contaminated land, and for the freedom to choose whether to evacuate from or remain in a radiation affected area. And, no matter this choice, to receive support to minimize exposure to radiation, protect health, and maintain and rebuild a way of life.
11. To refuse to work in an environment where radioactive contamination could constitute a health threat, said refusal having no negative ramifications for the victim.

WATCH LIVE: Sean Spicer takes questions on Yates testimony, Afghanistan troops at White House briefing
Associated Press
2 hrs ago


FBI to clarify Comey's testimony on Clinton...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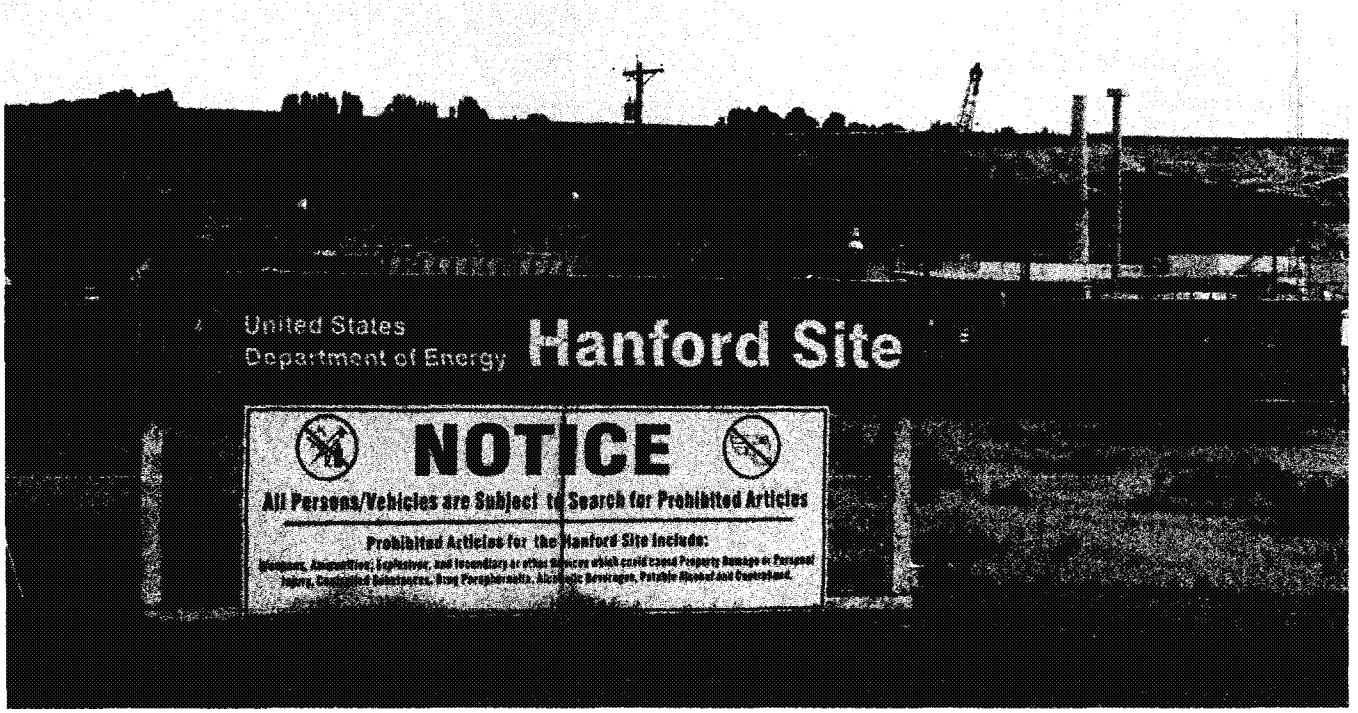
Tunnel with nuclear waste collapses in...


New dino identified

Tunnel with nuclear waste collapses in Washington state

4 / 23



© Ted S. Warre An emergency has been declared at the Hanford Nuclear Reservation after a portion of a tunnel that contained rail cars full of nuclear waste collapsed.

SPOKANE, Wash. (AP) — A portion of a storage tunnel that contains rail cars full of radioactive waste collapsed Tuesday morning, forcing an emergency declaration at the Hanford Nuclear Reservation in southeastern Washington state.

Associated Press
2 hrs ago

Officials detected no release of radiation and no workers were injured, said Randy Bradbury, a spokesman for the Washington state Department of Ecology.

*/ var oapartners = angular.module ("oapartners", ['common', 'OAFactory', 'LocationsFactory', 'ngDialog']) .controller('Ctrl', function ($scope, $filter, $q, $http, $window, LocationsData, OAData, ngDialog) { //load evironment config -- this file is used to load the configuration object: /Affiliate Center/Avalon/widgets.bankrate.com-dev/js/services/envconfig.js $scope.$watch (function(){return $window.bankrateEnvConfig;}, function(){ $scope.bankrateEnvConfig = $window.bankrateEnvConfig; }); $scope.$watch

There were no workers inside the tunnel when it collapsed. But nearby Hanford workers were evacuated and others who were farther away were told to remain indoors, the U.S. Department of Energy said.

The accident occurred at a facility known as PUREX, located in the middle of the sprawling Hanford site, which is half the size of Rhode Island, Bradbury said.

Hanford is located near Richland, about 200 miles southeast of Seattle.

The closed PUREX plant was part of the nation's nuclear weapons production complex.

Hanford for decades made plutonium for nuclear weapons and is now the largest depository of radioactive defense waste that must be cleaned.

It contains about 56 million gallons of radioactive waste, most of it in 177 underground tanks.

Bradbury said the collapse occurred at one of two rail tunnels under the PUREX site.

In the past, rail cars full of radioactive waste were driven into the tunnels and then buried there, he said.

Hanford has more than 9,000 employees.

The site was built during World War II and made the plutonium for most of the U.S. nuclear arsenal, including the bomb dropped on Nagasaki, Japan, at the end of the war.

9/18/14

Montana authorities learning how to respond to nuclear theft

ASSOCIATED PRESS

GREAT FALLS, Mont. – Montana law enforcement agencies are learning how to respond to an attack on a nuclear weapons convoy, a scenario that nuclear weapons officials say gives them nightmares.

To date, there have been no attacks on convoys, but the agencies say they are prepared.

Local authorities have been put on notice they could be the first to respond to any incident that occurs off base at Malmstrom Air Force Base or away from guarded nuclear sites, and federal officials want to be sure they are ready.

About 15 local, state, tribal and federal agencies joined Malmstrom airmen recently for an exercise and a demonstration of how security forces airmen would respond to a simulated attack on a convoy. The exercise involved a simulated attack on the transfer of nuclear weapons to a missile launch site.

Stan Moody, Malmstrom's security plans and programs manager, said a presidential order requires an integrated force of federal and local agencies for any nuclear incident response plan to "handle our worst day."

Col. Jay Folds, Malmstrom's vice commander, said the partnerships are working well.

"We've got confidence in what we do," he said.

Col. Ron Allen, 341st Missile Wing commander, told the participants that if there was a situation where the Air Force units were trying to stop an armed attacker, local agencies may be called on to control crowds and handle civilians.

Capt. Jeff Newton of the Great Falls Police Department said his agency has had a good working relationship with federal agencies for the last five years, the Great Falls Tribune reported.

Each agency has a role to play, and building the relationships ahead of time is critical, officials said.

Senior Airman Patrick Currie, a member of the 741st Missile Security Forces Squadron Convoy Response Force, said all agencies are learning how to respond and their responsibilities.

"It's important to all be on the same page," Currie said. "We rely on them just as much as they rely on us."

5/13/14

Nebraska utility head recommends closing small nuclear power plant

ASSOCIATED PRESS

OMAHA, Neb. – The head of a Nebraska utility recommended shutting down the nation's smallest nuclear power plant by the end of the year, saying Thursday that it doesn't make economic sense to keep it open.

Tim Burke, the president and CEO of the Omaha Public Power District, told the utility's board that Fort Calhoun Nuclear Station isn't financially sustainable.

Shuttering the plant would represent a major shift for the utility, which serves more than 310,000 customers in 13 counties in southeastern Nebraska. Utility officials previously maintained that Fort Calhoun would be a valuable part of its plans because of its ability to generate power without adding to carbon dioxide emissions.

The board is expected to vote on the recommendations at its June 16 meeting.

The district spends about $650 million a year on generating power, which includes about $250 million on Fort Calhoun. Burke said closing the nuclear plant will help keep the utility's rates low compared to the average power cost in the region.

The utility also has to make sure its mix of power plants can comply with environmental rules and restrictions on carbon dioxide emissions. The district typically gets about 34 percent of its power from the Fort Calhoun plant, but utility officials said Thursday that other carbon-free options, such as wind power, now make better financial sense.

The economics of the utility business have changed significantly in recent years because of new environmental regulations and cheaper natural gas prices due to hydraulic fracturing. Fort Calhoun's small size and single reactor contributed to the recommendation to close it.

"It's just not viable. It's just not economically viable," board member John Green said.

Smaller nuclear plants, like Fort Calhoun, have the most difficult time competing on the price of power, especially if they have had serious safety problems, said Mark Cooper, a senior fellow for economic analysis with the Institute for Energy and the Environment at Vermont Law School.

"The older, smaller reactors are really uneconomic," Cooper said.

That description fits several reactors that closed in recent years, such as the Vermont Yankee in Vermont plant that was shut down in 2014 or the Kewaunee Power Station in Wisconsin that shut down in 2013.

New Orleans-based Entergy Corp. has announced plans to close two more of its smaller, older plants by the end of the decade – Fitzpatrick nuclear plant near Syracuse, N.Y., and Pilgrim nuclear plant near Boston. Entergy also owns Vermont Yankee.

It's relatively rare for utilities to close a nuclear power plant unless there are major mechanical problems, but all nuclear plants face economic pressure because of the cheap natural gas and affordable power that can be purchased wholesale from other utilities.

"The industry is having trouble competing with costs," said David Lochbaum, director of the Nuclear Safety Project for the nonprofit group Union of Concerned Scientists.

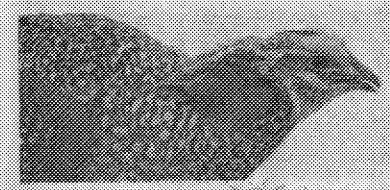
Adding to Fort Calhoun's problems is a series of setbacks it has had in recent years. The utility spent more than $140 million on repairs after flooding and a small fire damaged the plant in 2011.

Among the violations cited by regulators was the failure of a key electrical part during a 2010 test, a small electrical fire in June 2011, several security issues and deficiencies in flood planning that were discovered a year before the river spilled its banks.

It resumed operations in December 2013 after the utility hired Chicago-based Exelon, the largest U.S. operator of nuclear power plants, to run Fort Calhoun.

OPPD estimates that it will cost $884 million to decommission Fort Calhoun over at least a decade.

RAPID CITY JOURNAL



Prairie grouse hunting
More birds than past years OUTDOORS, PAGE B1

Man arrested in shooting
Spearfish man, 32, charged in Belle Fourche incident LOCAL NEWS, PAGE A3

MOSTLY CLOUDY 63 • 51 FORECAST, C1 | THURSDAY, SEPTEMBER 22, 2016 | rapidcityjournal.com

Study raises uranium concerns

Environmentalists: Angostura has elevated levels

JOURNAL STAFF

Members of three activist groups say recent research shows that abandoned uranium mines are contributing to elevated uranium levels in Angostura Reservoir in the southern Black Hills.

The research was recently published in the journal Environmental Earth Sciences by authors that included two South Dakota School of Mines & Technology scientists, Rohit Sharma and James Stone. The article is titled "Stream sediment geochemistry of the upper Cheyenne River watershed within the abandoned uranium mining region of the southern Black Hills."

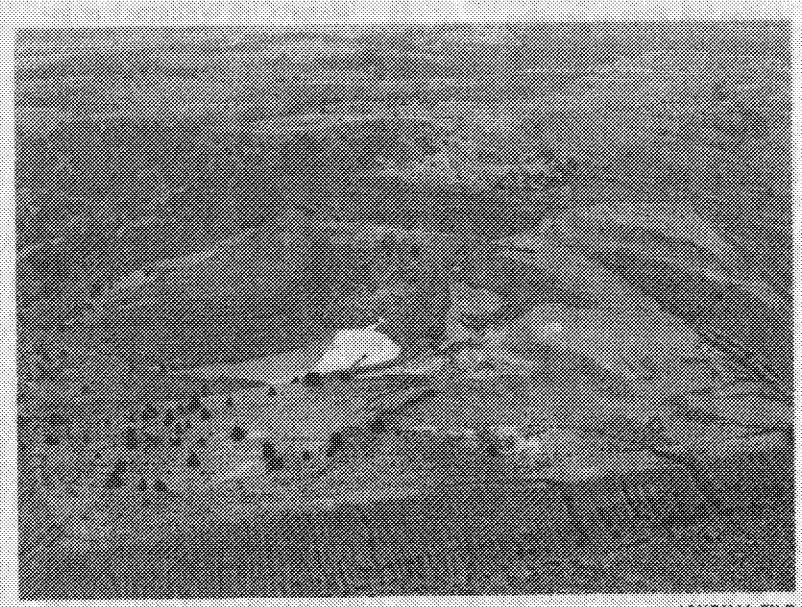
According to the Clean Water Alliance, Dakota Rural Action and It's All About the Water, the research shows that elevated uranium levels at Angostura are partly caused by human activity, including abandoned uranium mines and a former mill at Edgemont. Elevated uranium levels at Angostura Reservoir are comparable to the elevated uranium levels upstream in the Cheyenne River watershed at abandoned mines, the groups said.

"This impacts people throughout western South Dakota," Gena Parkhurst, president of the Black Hills Chapter of Dakota Rural Action, said in a news release. "The Cheyenne River runs along or through two reservations and five counties. It impacts agriculture and tourism. We need to clean it up."

The groups cited U.S. Environmental Protection Agency reports that list 169 old uranium mines and prospects in the southern Black Hills, which was mined for uranium from 1951 to 1972. Few of the old mines have been cleaned up. Additionally, the groups said there was a 1962 dam break that released uranium mill wastes into the Cheyenne River, and some of the wastes reached Angostura, a popular recreation spot.

The groups are using the research to call upon state and federal regulators to clean up old mine sites. The EPA studied several abandoned mine sites north

Please see URANIUM, Page A2



JOURNAL FILE

Three activists groups say abandoned uranium mines, like this one near Edgemont, are contributing to elevated uranium levels in Angostura Reservoir.

Uranium

From A1

of Edgemont last year and determined that although the sites contained pollutants, there had not been a release of the material that was sizable enough to necessitate a cleanup.

Lilias Jarding, of the Clean Water Alliance, said the recent research by the Mines scientists shows otherwise.

"These radioactive mines have been sitting open for as much as 65 years," Jarding said in the news release. "These test results make it clear there is a problem that threatens public health and demands immediate action."

Aside from the concerns about abandoned historical mines in the Edgemont area, a proposal to conduct a new kind of uranium mining in the same area is pending from Azarga Uranium Corp. Instead of digging tunnels and open pits as past mining operations did, Azarga wants to conduct in situ mining, which involves injecting a solution of water, oxygen and carbon dioxide to leach uranium from underground ore before pumping it to the surface.

Uranium is a naturally occurring radioactive element that was mined historically for use in nuclear weaponry and is now mined for nuclear power generation. Naturally occurring uranium in rock form is not typically hazardous, because the skin blocks uranium's alpha-particle radiation.

But if uranium particles are ingested in high concentrations via air or water, they can cause cancer.

9/2/16 RAPID CITY JOURNAL

Uranium miner agrees to fix sludge leaks

ASSOCIATED PRESS

CHEYENNE, Wyo. – A uranium mining company has agreed to corrective measures after two spills of radioactive sludge, the most recent on March 29 when some of the material from a Wyoming mine leaked from a truck onto a highway, the Nuclear Regulatory Commission said Wednesday.

The low-level radioactive sludge leaked onto U.S. 191 outside a radioactive waste disposal facility in Utah, the NRC said in a letter Tuesday to Brent Berg, the president of mine owner Cameco.

The company isn't aware of any danger to the environment or people, Cameco spokesman Kenneth Vaughn said Wednesday.

Besides failing to prevent the spill, Saskatchewan-based Cameco failed to accurately determine the amount of radioactive material in the sludge and adequately document the material in shipping papers, according to the NRC.

Cameco said it has agreed to halt shipping barium sulfate sludge without NRC approval, identify specifically what caused the two spills, report on all sludge shipments to the disposal facility in Blanding, Utah, over the past three years and develop a plan to correct the problem.

A similar leak happened last summer. The white, paste-like sludge is a normal by-product of in-situ uranium mining, a process that involves pumping water mixed with oxygen and baking soda into uranium-bearing sandstone deposits underground and pumping a solution containing uranium to the surface.

The solution is processed into yellowcake, which can be processed further into nuclear fuel.

Cameco has suspended sludge shipments from its mine while investigating how to prevent another leak, Vaughn said.

The company ships the material by truck for disposal every six months. Last year's leak happened at the bottom of the 15.5-foot-long shipment container and this year's happened at a lid at the top, Vaughn said.

"We are investigating all ways we can ensure this does not happen again," Vaughn said.

Ryan Johnson with the Utah Department of Environmental Quality said where along the truck's route through Wyoming, Colorado and Utah the leak began is unknown.

Testing with radiation monitors at places where the truck likely stopped or turned showed no sign of leakage less than a week after this year's spill, Vaughn said.

Workers washed the white, paste-like material that spilled onto U.S. 191 off the pavement and removed 5 yards to 6 yards of potentially contaminated soil, according to a report by Colorado-based Energy Fuels Resources, owner of the White Mesa Mill.

Wyoming is home to four of the nation's six operational in-situ uranium mines and is the top uranium-producing state. Smith Ranch-Highland, capable of producing up to 5.5 million pounds of uranium hexafluoride annually, is the biggest in-situ uranium mine by production volume in the U.S.

Ripples from nuclear plant closings overwhelm towns

3/27/17

ASSOCIATED PRESS

OAK HARBOR, Ohio — Living in the shadows of the Davis-Besse nuclear power plant's cooling tower, which soars above Lake Erie in Ohio like an oversized lighthouse, brings with it some give-and-take.

On the plus side, it generates tax money that once paid for a high school swimming pool and auditorium. Then there are the stockpiles of radiation pills and emergency drills for students in case of a disaster.

For the small, mostly rural towns that are home to 61 U.S. nuclear plants that produce one-fifth of the nation's electricity, each one has been like the golden goose supplying high-paying jobs and money for roads, police and libraries.

But those same places and their residents are bracing for what may come next due to the soaring costs of running aging reactors that have speeded up the closings of a handful of sites and are threatening at least a dozen more. That's because once the power stops flowing, so does the money.

Towns that already have seen nuclear plants shuttered are now dealing with higher property taxes, cuts in services and less school funding — a new reality that may linger for decades.

In Wisconsin, the tiny town of Carlton saw the source of roughly 70 percent of its yearly budget disappear when the Kewaunee nuclear power plant closed four years ago. That resulted in the first town tax in its history.

"Financially, we benefited, but now we're going to pay the price for the next 40 years," said David Hardtke, the town chairman.

When operations ceased at the Crystal River Nuclear Plant along Florida's Gulf Coast, "it was like something going through and wiping out a third of your county," said Citrus County Administrator Randy Oliver.

To make up the difference, property tax rates went up by 31 percent and 100 county workers were let go — so many that Oliver worries there won't be enough to evacuate residents and clear roads if a major tropical storm hits.

While the nation's fleet of nuclear power plants wasn't designed to last forever, closures are happening earlier than expected because repair costs are astronomical and it's harder to compete with cheaper natural gas-fired plants and renewable energy sources.

The former head of the nuclear industry's trade group said last year that economic pressures have put 15 to 20 plants at risk of a premature shutdown.

FirstEnergy Corp. will decide by next year whether to close or sell its plant in Pennsylvania and two in Ohio, including Davis-Besse, unless the states change regulations to make them more competitive.

The uncertainty around Davis-Besse and a plan to lower its value caused the local school board to shelve plans to build a new elementary building for the district, which stands to lose $8 million a year without the plant.

New Orleans-based Entergy Corp., owner of the Palisades nuclear plant in Michigan, announced plans late last year to close in 2018 even though it has a license to keep operating another 14 years.

How much the losses will add up to isn't clear yet, said Dennis Palgen, a township supervisor where the plant has operated since 1971.

"We're just in a state of limbo right now," he said, adding that plans to buy a new fire truck are on hold.

The plant and its 600 workers have been good neighbors, he said, buying backpacks for school children and emergency generators for the township. "The list goes on and on," Palgen said.

In some cases, utilities are paying communities and schools during the first few years to help ease the sudden loss of their largest employer and taxpayer.

But what makes recovering tough is that almost all nuclear plants are in out-of-the-way places that have become heavily reliant on them. And they employ specialized workers who are quick to leave for still-operating locations.

To make matters worse, many closed sites can't be redeveloped for new uses because they're still storing radioactive waste.

Some hope the Trump administration's new budget proposal to revive the mothballed disposal site at Nevada's Yucca Mountain will eventually allow for new development at the former plants.

"We have become a de facto nuclear waste dump. It just sits there, and sits there forever," said Al Hill, the mayor in Zion, Ill., where spent nuclear fuel remains stored on prime property along Lake Michigan even though the plant shut down 20 years ago.

On top of that, the closing took away half of the city's tax base and pushed property taxes to the highest in the state, making it difficult to lure new businesses, Hill said.

Left behind are empty storefronts and little foot traffic, said Chris Daisy, who runs a downtown bicycle shop.

"It's had a devastating effect on this town," he said.

The recycled water would be "returned to a quality as close to pre-mining conditions as can practically be achieved," according to Powertech.

Hollenbeck said uranium is only released in an oxygen-rich environment, such as during in-situ mining. He said uranium that isn't extracted would remain trapped below ground by surrounding bedrock, which is oxygen deficient.

Other toxic metals, like radium, and other by-products would be removed and shipped offsite for proper disposal, according to Powertech. The company also said leaching chemicals wouldn't be used in the mining process; only water, oxygen and carbon dioxide.

As for the economy, Hollenbeck said there would only be a positive impact.

"Projects that produce $40 million worth of economic development in western South Dakota don't come along every day," he said. "Most of that would be funneled through Rapid City."

He said Powertech has already invested heavily in Rapid City on contractors and equipment, and that the mine's piping would come from the city's WL Plastics when it opens.

Hollenbeck pointed to regional in-situ mining operation in the light of success.

"This isn't a new technology." he said. "This isn't a new idea. This has been going on for an extended amount of time."

I know this is a lot of information. Thank you for taking the time. In closing, here are some violations in a neighboring ISL mine:

License Violations at Crow Butte ISL uranium mine (Nebraska)

59 violations

10

- Aug 6, 2013: Well fails 15-year mechanical integrity test
- Jun. 5, 2013: Radiation dose in unrestricted area exceeds 0.02 mSv/h standard
- Mar. 14, 2013: Evaporation Pond 1 liner leak
- Jan. 18, 2013: Well fails mechanical integrity test
- Oct. 24, 2012: Well fails 20-year mechanical integrity test
- Aug. 20, 2012: Well fails 5-year mechanical integrity test
- June 4, 2012: Well fails 5-year mechanical integrity test
- May 25, 2012: Monitor well fails 15-year mechanical integrity test
- Oct. 7, 2011: Monitor well excursion
- Aug. 9, 2011: Exceedance of Well Head Manifold Pressure Limitations
- July 18, 2011: two wells fail 5-year mechanical integrity test
- June 1, 2011: Evaporation Pond 1 liner leak
- May 27, 2011: two Monitor well excursions
- May 24, 2011: Monitor well excursion
- Mar. 16, 2011: Monitor well excursion
- Jan. 13, 2011: Monitor well excursion
- July 8, 2010: Monitor well excursion
- July 6, 2010: Well fails 5-year mechanical integrity test
- June 22, 2010: Excursions at two monitor wells "due to increased groundwater levels"
- June 22, 2010: Monitor well excursion
- June 16, 2010: Excursions at three monitor wells "due to increased groundwater levels"

- June 11, 2010: Evaporation Pond 3 liner leak detected
- May 10, 2010: Well fails 5-year mechanical integrity test
- Apr. 13, 2010: Excursion at monitor well due to "natural conditions"
- Dec. 31, 2009: Evaporation Pond 4 Liner Leak
- Nov. 19, 2009: Well fails 15-year mechanical integrity test
- Oct. 15, 2009: Mechanical integrity test missed for two wells
- June 18, 2009: Evaporation Pond 4 liner leak detected
- June 11, 2009: Monitor well excursion
- June 5, 2009: Evaporation Pond 1 liner leak detected
- April 27, 2009: Monitor well placed on excursion status
- April 17, 2009: Production well fails 5-year mechanical integrity test
- June 4, 2008: Exceedance of Well Head Manifold Pressure Limitations
- May 31, 2008: Monitor well placed on excursion status
- May 23, 2008: $50,000 penalty imposed for violations
- May 19, 2008: Monitor well placed on excursion status
- April 29, 2008: Five-year mechanical integrity test missed for 42 wells
- September 26, 2006: Monitor well placed on excursion status
- May 5, 2006: leak detected at Pond 4
- January 19, 2006: Monitor well placed on excursion status
- October 27, 2005: Injection well leak detected
- August 4, 2005: Monitor well placed on excursion status
- June 28, 2005: Monitor well placed on excursion status
- June 17, 2005: Monitor well placed on excursion status
- May 2, 2005: Monitor well placed on excursion status
- May 14, 2004: leak detected at Pond 1
- December 23, 2003: Monitor well placed on excursion status
- December 26, 2002: Monitor well placed on excursion status
- September 10, 2002: Monitor well placed on excursion status
- April 4, 2002: Monitor well placed on excursion status
- December 4, 2001: Monitor well placed on excursion status
- March 2, 2001: Monitor well placed on excursion status
- September 10, 2000: Monitor well placed on excursion status
- May 26, 2000: Monitor well placed on excursion status
- April 27, 2000: Monitor well placed on excursion status
- March 6, 2000: Monitor well placed on excursion status
- July 2, 1999: Monitor well placed on excursion status
- August 7, 1998: Spill of 10,260 gallons of injection fluid
- March 21, 1998: Monitor well placed on excursion status
- August 12, 1997: Discovery of Pinhole Leaks in Upper Liner of Process Water Evaporation Pond

59 violations

Source: http://www.wise-uranium.org/umopusa.html#CROWB

Remember, if the permits are granted, due to state legislation removed in 2011, the DENR will no longer have the authority to do anything regarding ISL mining - no bonds, oversight, or penalties for license violations.

Be well,

PRO PUBLICA

Injection Wells
The Hidden Risks of Pumping Waste Underground

Poisoning the Well: How the Feds Let Industry Pollute the Nation's Underground Water Supply

A view of the dry bed of the E.V. Spence Reservoir in Robert Lee, Texas, in October 2011. Records show that environmental officials have granted more than 50 aquifer exemptions for waste disposal and uranium mining in the drought-stricken state. (Calle Richmond/Reuters)

by ***Abrahm Lustgarten***
ProPublica, Dec. 11, 2012, 1:01 a.m.

Federal officials have given energy and mining companies permission to pollute aquifers in more than 1,500 places across the country, releasing toxic material into underground reservoirs that help supply more than half of the nation's drinking water.

In many cases, the Environmental Protection Agency has granted these so-called aquifer exemptions in Western states now stricken by drought and increasingly desperate for water.

EPA records show that portions of at least 100 drinking water aquifers have been written off because exemptions have allowed them to be used as dumping grounds.

"You are sacrificing these aquifers," said Mark Williams, a hydrologist at the University of Colorado and a member of a National Science Foundation team studying the effects of energy development on the environment. "By definition, you are putting pollution into them. ... If you are looking 50 to 100 years down the road, this is not a good way to go."

As part of an investigation into the threat to water supplies from underground injection of waste, ProPublica set out to identify which aquifers have been polluted.

We found the EPA has not even kept track of exactly how many exemptions it has issued, where they are, or whom they might affect.

What records the agency was able to supply under the Freedom of Information Act show that exemptions are often issued in apparent conflict with the EPA's mandate to protect waters that may be used for drinking.

Though hundreds of exemptions are for lower-quality water of questionable use, many allow grantees to contaminate water so pure it would barely need filtration, or that is treatable using modern technology.

The EPA is only supposed to issue exemptions if aquifers are too remote, too dirty, or too deep to supply affordable drinking water. Applicants must persuade the government that the water is not being used as drinking water and that it never will be.

Sometimes, however, the agency has issued permits for portions of reservoirs that are in use, assuming contaminants will stay within the finite area exempted.

In Wyoming, people are drawing on the same water source for drinking, irrigation and livestock that, about a mile away, is being fouled with federal permission. In Texas, EPA officials are evaluating an exemption for a uranium mine — already approved by the state — even though numerous homes draw water from just outside the underground boundaries outlined in the mining company's application.

The EPA declined repeated requests for interviews for this story, but sent a written response saying exemptions have been issued responsibly, under a process that ensures contaminants remain confined.

"Aquifer Exemptions identify those waters that do not currently serve as a source of drinking water and will not serve as a source of drinking water in the future and, thus, do not need to be protected," an EPA spokesperson wrote in an email statement. "The process of exempting aquifers includes steps that minimize the possibility that future drinking water supplies are endangered."

Yet EPA officials say the agency has quietly assembled an unofficial internal task force to re-evaluate its aquifer exemption policies. The agency's spokesperson declined to give details on the group's work, but insiders say it is attempting to inventory exemptions and to determine whether aquifers should go unprotected in the future, with the value of water rising along with demand for exemptions closer to areas where people live.

Advances in geological sciences have deepened regulators' concerns about exemptions, challenging the notion that waste injected underground will stay inside the tightly drawn boundaries of the exempted areas.

"What they don't often consider is whether that waste will flow outside that zone of influence over time, and there is no doubt that it will," said Mike Wireman, a senior hydrologist with the EPA who has worked with the World Bank on global water supply issues. "Over decades, that water could discharge into a stream. It could seep into a well. If you are a rancher out there and you want to put a well in, it's difficult to find out if there is an exempted aquifer underneath your property."

Aquifer exemptions are a little-known aspect of the government's Underground Injection Control program, which is designed to protect water supplies from the underground disposal of waste.

The Safe Drinking Water Act explicitly prohibits injection into a source of drinking water, and requires precautions to ensure that oil and gas and disposal wells that run through them are carefully engineered not to leak.

Areas covered by exemptions are stripped of some of these protections, however. Waste can be discarded into them freely, and wells that run through them need not meet all standards used to prevent pollution. In many cases, no water monitoring or long-term study is required.

The recent surge in domestic drilling and rush for uranium has brought a spike in exemption applications, as well as political pressure not to block or delay them, EPA officials told ProPublica.

"The energy policy in the U.S is keeping this from happening because right now nobody — *nobody* — wants to interfere with the development of oil and gas or uranium," said a senior EPA employee who declined to be identified because of the sensitivity of the subject. "The political pressure is huge not to slow that down."

Many of the exemption permits, records show, have been issued in regions where water is needed most and where intense political debates are underway to decide how to fairly allocate limited water resources.

In drought-stricken Texas, communities are looking to treat brackish aquifers beneath the surface because they have run out of better options and several cities, including San Antonio and El Paso, are considering whether to build new desalinization plants for as much as $100 million apiece.

And yet environmental officials have granted more than 50 exemptions for waste disposal and uranium mining in Texas, records show. The most recent was issued in September.

The Texas Railroad Commission, the state agency that regulates oil and gas drilling, said it issued additional exemptions, covering large swaths of aquifers underlying the state, when it brought its rules into compliance with the federal Safe Drinking Water Act in 1982. This was in large part because officials viewed them as oil reservoirs and thought they were already contaminated. But it is unclear where, and how extensive, those exemptions are.

EPA "Region VI received a road map — yes, the kind they used to give free at gas stations — with the aquifers delineated, with no detail on depth," said Mario Salazar, a former EPA project engineer who worked with the underground injection program for 25 years and oversaw the approval of Texas' program, in an email.

In California, where nearly half of the nation's fruits and vegetables are grown with water from as far away as the Colorado River, the perennially cash-strapped state's governor is proposing to spend $14 billion to divert more of the Sacramento River from the north to the south. Near Bakersfield, a private project is underway to build a water bank, essentially an artificial aquifer.

Still, more than 100 exemptions for natural aquifers have been granted in California, some to dispose of drilling and fracking waste in the state's driest parts. Though most date back to the 1980s, the most recent exemption was approved in 2009 in Kern County, an agricultural heartland that is the epicenter of some of the state's most volatile rivalries over water.

The balance is even more delicate in Colorado. Growth in the Denver metro area has been stubbornly restrained not by available land, but by the limits of aquifers that have been drawn down by as much as 300 vertical feet. Much of Eastern Colorado's water has long been piped underneath the Continental Divide and, until recently, the region was mulling a $3 billion plan to build a pipeline to bring water hundreds of miles from western Wyoming.

Along with Wyoming, Montana and Utah, however, Colorado has sacrificed more of its aquifer resources than any other part of the country.

More than 1,100 aquifer exemptions have been approved by the EPA's Rocky Mountain regional office, according to a list the agency provided to ProPublica. Many of them are relatively shallow and some are in the same geologic formations containing aquifers relied on by Denver metro residents, though the boundaries are several hundred miles away. More than a dozen exemptions are in waters that might not even need to be treated in order to drink.

"It's short-sighted," said Tom Curtis, the deputy executive director of the American Water Works Association, an international non-governmental drinking water organization. "It's something that future generations may question."

To the resource industries, aquifer exemptions are essential. Oil and gas drilling waste has to go somewhere and in certain parts of the country, there are few alternatives to injecting it into porous rock that also contains water, drilling companies say. In many places, the same layers of rock that contain oil or gas also contain water, and that water is likely to already contain pollutants such as benzene from the natural hydrocarbons within it.

Similarly, the uranium mining industry works by prompting chemical reactions that separate out minerals within the aquifers themselves; the mining can't happen without the pollution.

When regulations governing waste injection were written in the 1980s to protect underground water reserves, industry sought the exemptions as a compromise. The intent was to acknowledge that many deep waters might not be worth protecting even though they technically met the definition of drinking water.

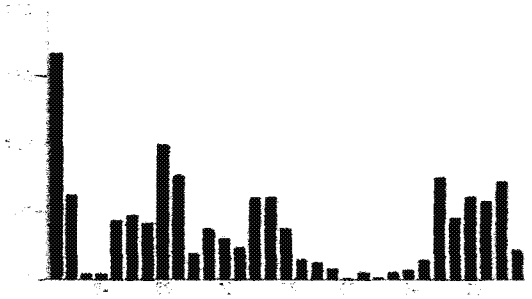
"The concept of aquifer exemptions was something that we 'invented' to address comments when the regulations were first proposed," Salazar, the former EPA official, said. "There was never the intention to exempt aquifers just because they could contain, or would obviate, the development of a resource. Water was the resource that would be protected above all."

Since then, however, approving exemptions has become the norm. In an email, the EPA said that some exemption applications had been denied, but provided no details about how many or which ones. State regulators in Texas and Wyoming could not recall a single application that had been turned down and industry representatives said they had come to expect swift approval.

"Historically they have been fairly routinely granting aquifer exemptions," said Richard Clement, the chief executive of Powertech Uranium, which is currently seeking permits for new mining in South Dakota. "There has never been a case that I'm aware of that it has not been done."

Aquifer Exemptions Granted

The aquifer exemptions approved by the EPA each year are according to a partial list of approvals provided to ProPublica by the agency in response to a FOIA request.



Source: Environmental Protection Agency

In 1981, shortly after the first exemption rules were set, the EPA lowered the bar for exemptions as part of settling a lawsuit filed by the American Petroleum Institute. Since then, the agency has issued permits for water not "reasonably expected" to be used for drinking. The original language allowed exemptions only for water that could never be used.

Oil companies have been the biggest users of aquifer exemptions by far. Most are held by smaller, independent companies, but Chevron, America's second-largest oil company, holds at least 28 aquifer exemptions. Exxon holds at least 14. In Wyoming, the Canadian oil giant EnCana, currently embroiled in an investigation of water contamination related to fracking in the town of Pavillion, has been allowed to inject into aquifers at 38 sites.

Once an exemption is issued, it's all but permanent; none have ever been reversed. Permits dictate how much material companies can inject and where, but impose little or no obligations to protect the surrounding water if it has been exempted. The EPA and state environmental agencies require

applicants to assess the quality of reservoirs and to do some basic modeling to show where contaminants should end up. But in most cases there is no obligation, for example, to track what has been put into the earth or — except in the case of the uranium mines — to monitor where it does end up.

The biggest problem now, experts say, is that the EPA's criteria for evaluating applications are outdated. The rules — last revised nearly three decades ago — haven't adapted to improving water treatment technology and don't reflect the changing value and scarcity of fresh water.

Aquifers once considered unusable can now be processed for drinking water at a reasonable price.

The law defines an underground source of drinking water as any water that has less than 10,000 parts per million of what are called Total Dissolved Solids, a standard measure of water quality, but historically, water with more than 3,000 TDS has been dismissed as too poor for drinking. It also has been taken for granted that, in most places, the deeper the aquifer — say, below about 2,000 feet — the higher the TDS and the less salvageable the water.

Yet today, Texas towns are treating water that has as high as 4,000 TDS and a Wyoming town is pumping from 8,500 feet deep, thousands of feet below aquifers that the EPA has determined were too far underground to ever produce useable water.

"You can just about treat anything nowadays," said Jorge Arroyo, an engineer and director of innovative water technologies at the Texas Water Development Board, which advises the state on groundwater management. Arroyo said he was unaware that so many Texas aquifers had been exempted, and that it would be feasible to treat many of them. Regarding the exemptions, he said, "With the advent of technology to treat some of this water, I think this is a prudent time to reconsider whether we allow them."

Now, as commercial crops wilt in the dry heat and winds rip the dust loose from American prairies, questions are mounting about whether the EPA should continue to grant exemptions going forward.

"Unless someone can build a clear case that this water cannot be used — we need to keep our groundwater clean," said Al Armendariz, a former regional administrator for the EPA's South Central region who now works with the Sierra Club. "We shouldn't be exempting aquifers unless we have no other choice. We should only exempt the aquifer if we are sure we are never going to use the water again."

Still, skeptics say fewer exemptions are unlikely, despite rising concern about them within the EPA, as the demand for space underground continues to grow. Long-term plans to slow climate change and clean up coal by sequestering carbon dioxide underground, for example, could further endanger aquifers, causing chemical reactions that lead to water contamination.

"Everyone wants clean water and everyone wants clean energy," said Richard Healy, a geologist with the U.S. Geological Survey whose work is focused on the nexus of energy production and water. "Energy development can occur very quickly because there is a lot of money involved. Environmental studies take longer."

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